4	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
	Sriraj Layout	Sqm							
	cross road 1		1	235.00	5.10	--	1198.50		
	cross road 2		1	230.00	4.50	--	1035.00		
	cross road 3		1	225.00	5.00	--	1125.00		
	Cross Road 4		1	100.00	4.90	--	490.00		
	Cross Roads		4	45.00	4.60	--	828.00		
							4676.50	27.56	**128884.34**
5	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
	Sriraj Layout	Sqm							
	For Laying BC								
	cross road 1		1	235.00	5.10	--	1198.50		
	cross road 2		1	230.00	4.50	--	1035.00		
	cross road 3		1	225.00	5.00	--	1125.00		
	Cross Road 4		1	100.00	4.90	--	490.00		
	Cross Roads		4	45.00	4.60	--	828.00		
							4676.50	11.66	**54527.99**
6	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	Sriraj Layout	Cum							
	cross road 1		1	235.00	5.10	0.04	47.94		
	cross road 2		1	230.00	4.50	0.04	41.40		
	cross road 3		1	225.00	5.00	0.04	45.00		
	Cross Road 4		1	100.00	4.90	0.04	19.60		
	Cross Roads		4	45.00	4.60	0.04	33.12		
							187.06	7083.98	**1325129.30**

7	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
	Edge line	Sqm	2	970.00	0.10	--	194.00		
							194.00	542.72	**105287.68**
							Total Construction Cost		**3727138.530**
8							**Cost towards Preparation of DPR LS**		**37272.00**
9							**Cost towards PMC / Third Party inspection LS**		**37272.00**
								Sub Total	**3801682.53**
10							**Miscellaneous and rounding off**		**198317.47**
								Total	**4000000.00**

ertificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.

2 The provisions made in the estimate are necessary and essential.

3 The workspot was inspected and work is found to be necessary.

4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Assistant Engineer

Assistant Executive Engineer

Executive Engineer.

25/11/17

BRUHAT BANGALORE MAHANAGARA PALIKE

Project: Improvements to Roads and Drains atKogilu Surrounding in Ward No 05 Byatarayanapura Sub |

Est Cost: =30.0Lakh

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desilt	Cum							
	Gowdru ramaiyya layout								
	road connceting 4th and 5th		2	35.00	0.50	0.45	15.75		
	5th cross		2	50.00	0.50	0.45	22.50		
	c/s road in 5th cross		2	75.00	0.50	0.45	33.75		
	4th cross		2	115.00	0.50	0.45	51.75		
	Beside Ladies tailor shop		2	89.00	0.50	0.45	40.05		
							163.80	186.92	**30617.50**
2	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	Gowdru ramaiyya layout								
	road connceting 4th and 5th		1	35	10.80	0.23	86.94		
	5th cross		1	50	4.70	0.23	54.05		
	Bad reaches for 5th cross		5	2.20	1.60	0.23	4.05		
	c/s road in 5th cross		1	75	4.70	0.23	81.08		
	4th cross		1	115	5.00	0.23	132.25		
	Beside Ladies tailor shop		1	49	4.20	0.23	47.33		
			1	40	2.60	0.23	23.92		
	Cross road -1		1	50	4.60	0.23	52.90		
	Cross road -2		1	80	5.10	0.23	93.84		
							576.36	155.16	**89427.55**
3	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.2 of PW,P&IWTD S.R 2016-17)								
	Bed Concrete	Cum							
	4th cross		1	115	5	0.15	86.25		
	Beside Ladies tailor shop		1	49	4.2	0.15	30.87		
			1	40	2.6	0.15	15.60		
							132.72	5348.76	**709887.43**

4	Cement concrete pavement.Construction of un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base with OPC cement or any other type as per clause 1051.2.2 design mix M20/M30 , with 25mm and down size graded granite metal coarse aggregates and fine aggregtes , with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed 2008 , mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints including groove cutting charges, joint filler, separation membrane, selant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades as per drawing complete as per specifications. - M30 (at 360Kg per cum coarse aggregate @ 0.69cum and fine aggregate @ 0.46cum) ((P.No.177, I.No.22.6.1 of PW,P&IWTD SR 2016-17)								
	Road Portion	Cum							
	4th cross		1.00	115.00	5.00	0.10	57.50		
	Beside Ladies tailor shop		1.00	49.00	4.20	0.10	20.58		
			1.00	40.00	2.60	0.10	10.40		
							88.48	6217.96	**550165.10**
5	Vaccum de-watering with vaccum pump and suction mat and compaction with skin floater clubbed with floating disc including cost of generator, HOM of machinery, Screed Vibratory, Power Floater, blade and disc etc., with all lead and lift.(P.No.177, I.No.22.7 of PW, P&IWTD SR 2016-17)								
	Road Portion	Sqm							
	4th cross		1.00	115.00	5.00		575.00		
	Beside Ladies tailor shop		1.00	49.00	4.20	--	205.80		
	0.00		1.00	40.00	2.60	--	104.00		
							884.80	95.40	**84409.92**
6	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
	Gowdru ramaiyya layout	Cum							
	road connceting 4th and 5th		1	35.00	10.80	0.23	86.94		
	5th cross		1	50.00	4.70	0.23	54.05		
	Bad reaches for 5th cross		5	2.20	1.60	0.23	4.05		
	c/s road in 5th cross		1	75.00	4.70	0.23	81.08		
	Cross road -1		1	50.00	4.60	0.23	52.90		
	Cross road -2		1	80.00	5.10	0.23	93.84		
							372.85	1768.08	**659233.93**
7	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
	Gowdru ramaiyya layout	Sqm							
	road connceting 4th and 5th		1	35.00	10.80	--	378.00		
	5th cross		1	50.00	4.70	--	235.00		
	Bad reaches for 5th cross		5	2.20	1.60	--	17.60		
	c/s road in 5th cross		1	75.00	4.70	--	352.50		
	Cross road -1		1	50.00	4.60	--	230.00		
	Cross road -2		1	80.00	5.10	--	408.00		
							1621.10	27.56	**44677.52**

8	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
	Gowdru ramaiyya layout	Sqm							
	For Laying BC								
	road connceting 4th and 5th		1	35.00	10.80	--	378.00		
	5th cross		1	170.00	4.70	--	799.00		
	c/s road in 5th cross		1	75.00	4.70	--	352.50		
	Cross road -1		1	50.00	4.60	--	230.00		
	Cross road -2		1	80.00	5.10	--	408.00		
							2167.50	11.66	**25273.05**
9	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	Gowdru ramaiyya layout	Cum							
	road connceting 4th and 5th		1	35.00	10.80	0.04	15.12		
	5th cross		1	170.00	4.70	0.04	31.96		
	c/s road in 5th cross		1	75.00	4.70	0.04	14.10		
	Cross road -1		1	50.00	4.60	0.04	9.20		
	Cross road -2		1	80.00	5.10	0.04	16.32		
							86.70	7083.98	**614181.07**
10	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
	Edge line	Sqm	2	410.00	0.10	--	82.00		
							82.00	542.72	**44503.04**
							Total Construction Cost		**2852376.107**
11							**Cost towards Preparation of DPR LS**		**28524.00**
12							**Cost towards PMC / Third Party inspection LS**		**28524.00**
								Sub Total	**2909424.11**
13							**Miscellaneous and rounding off**		**90575.89**
								Total	**3000000.00**

7659 B.R A.W

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Assistant Engineer

Assistant Executive Engineer

Executive Engineer 26/11/17

T-C
P-C
DBM
BC

BRUHAT BANGALORE MAHANAGARA PALIKE

Project: Improvements to Roads and Drains at Agrahara Village Cross Roads in Ward No 05 Byatarayanapura Sub division

Est Cost: =10.0Lakh

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
1	KSRRB M200-13.1. **Dismantling of existing structures** like culverts, bridges, retaining walls and other structure comprising of masonry. cement concrete, wood work, steel work, including T&P and and stacking the serviceable material with all lifts complete as per specifications.**-do- II. By Mechanical Means. A. Cement Concrete Grade M-15 & M-20.** (P.No.137, I.No.18.20 of PW, P&IWTD SR 2016-17)								
	for Concrete road								
	Cross Road		1	160.00	3.00	0.10	48.00		
							48.00	482.45	**23157.60**
2	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desilt	Cum							
	Cross Road		1	160.00	0.50	0.45	36.00		
							36.00	186.92	**6729.12**
3	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	Cross Road		1	160.00	3.80	0.25	152.00		
							152.00	155.16	**23584.32**
4	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.2 of PW,P&IWTD S.R 2016-17)								
	For Road Portion	Cum							
	Cross Road		1	160.00	3.80	0.15	91.20		
							91.20	5348.76	**487806.91**